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THE PRE-HISTORY OF THE NORTH.

The Pre-History of the North, based on Contemporary Memorials. By the late Chamberlain J. J. A. Worsaae, &c. Translated, with a brief Memoir of the Author, by H. F. Morland Simpson, M.A. (London: Trübner and Co., 1886.)

IT was a happy thought to offer as a tribute of respect to the memory of one who had done so much for English history and archæology as the late Mr. Worsaae, an English translation of one of the latest, as well as one of the most important, of his archæological essays. The Danish original, of which the volume before us is a translation, is prefaced by an introduction dated December 1880, but a still later work of Worsaae's, and one which may practically be regarded as his last, required no translation, as it was originally written by him in the English language, and published in 1882. This work is entitled "The Industrial Arts of Denmark, from the Earliest Times to the Danish Conquest of England," and forms one of the series of hand-books issued in connexion with the South Kensington Museum. A fellow volume on "The Industrial Arts of Scandinavia in the Pagan Time" appeared in 1883 from the pen of Dr. Hans Hildebrand, of Stockholm.

But not only did one of Worsaae's latest works make its first appearance in the English tongue, but thirty years previously, in 1852, one of his earliest works—indeed one of his most important independent works—appeared in an English garb almost at the same time as it did in the Danish and German languages. This, his "Account of the Danes and Norwegians in England, Scotland, and Ireland," was partly the result of a lengthened stay in the British Isles, and contains a vast store of historical information, to which perhaps too little recourse has been had by English students. It was, however, as an archæologist rather than as an historian that Worsaae merited and obtained the highest distinction. A remarkable linguist, a man of high organizing power, of indefatigable industry, and endowed with the most amiable disposition and the most charming manners, the record of all that he was able to accomplish is absolutely amazing. At the age of eighteen he had already begun to write on archæological subjects, and his important work on the "Primæval Antiquities of Denmark," written by him at the age of twenty-two, and published in 1843, was translated into English by the late Mr. Thomas, and published in 1849. From that date to the day of his death his pen was never idle. This, however, is not the place to attempt an account of Worsaae's contributions to archæology. They have already been recorded by Dr. Sophus Müller in the *Mémoires* of the Society of Northern Antiquaries. Those who, from time to time, have attended the Congresses of Prehistoric Archæology and Anthropology will have been able to form some idea of the versatility of Worsaae's mind and the vast extent of his archæological acquirements; and those who have visited the Museum of Northern Antiquities and the Rosenborg Castle at Copenhagen will have been im-

pressed with his wonderful powers of organization and arrangement. The formation of an historical museum like that of Rosenborg was the result of a happy inspiration, and the difficulties that attended it were by no means slight. Worsaae's own account of them in his "Optegnelser om Rosenborg-Samlingen i 25 Aar" is of the highest interest, though perhaps it would have been wise on the part of his executors to have postponed the publication of this autobiographical memoir for a few years. His relations to the Court of two successive Kings of Denmark were of an intimate kind, and occasionally great tact had to be exercised in carrying out his views as to the requirements of the Rosenborg Museum, which illustrates in such a remarkable manner the successive reigns of the Danish monarchs from the fifteenth century downwards. The estimation in which he was held in his own country was evinced in 1874 by his being appointed Minister of Worship and Public Instruction, but, fortunately for archæological science, his tenure of office was not of long duration.

It is, however, time to turn more immediately to the work the title of which heads this notice. Its object is to trace the prehistoric settlements and the development of civilization in the Scandinavian North; and the phases under which these are considered, and the approximate chronology assigned to them are as follows:—

I. The early Stone Age, at least 3000 B.C., when portions only of Southern Scandinavia seem to have been inhabited.

II. The later Stone Age, about 2000 to 1000 B.C., contemporaneous with the Bronze Age on the shores of the Mediterranean.

III. The early Bronze Age, about 1000 to 500 B.C., when a Stone Age existed to the north, and an Iron Age had already come in to the south.

IV. The late Bronze Age, about 500 B.C. to the time of Christ's birth, when a pre-Roman Age of Iron was developed in Central and Western Europe.

V. The early Iron Age, from A.D. 1 to 450, when bronze was still in use in parts of the Scandinavian peninsula.

VI. The middle Age of Iron, about A.D. 450 to 700, when foreign Romano-German influence predominated.

VII. The later Iron Age, or Viking Period, about A.D. 700 to 1000, when a Stone Age still lingered in the extreme north of Finland and Lapland.

The characteristic relics of all these stages of culture are discussed, and their extension in time and space and the sources whence the various phases of civilization were more immediately derived to the north are indicated. With regard to these general considerations not much need be said, unless it be to observe that, with regard to the Danish shell-mounds, or Kjökken-møddings, all antiquaries and naturalists are not of one accord in assigning to them an antiquity beyond that of the ordinary forms of polished stone implements.

Two principal points on which Worsaae insists are the religious origin of many of the deposits of prehistoric periods, and the religious signification of many symbols, which at first sight would seem to be but of a conventional character. The two remarkable golden horns found in 1639 and 1734 at Gallehus, in Slesvig, buried but a few yards apart, belonged apparently to the middle Iron Age;

and though they were stolen and melted down in 1802, faithful representations of them have been preserved. The horns were divided by projecting rings into a series of compartments, in nearly all of which there were groups of human and animal figures accompanied by various symbols. The meaning of these, Worsaae, by the light of northern mythology, has undertaken to interpret; and though it is impossible here even to attempt to reproduce his interpretation, it may fairly be said that it is one that commends itself for its consistency, and which the correspondence between the subjects on the two horns tends strongly to corroborate. There can, as he says, be scarcely a doubt that these gold horns, unique both in size and embellishment, originally formed a pair, and that, like other heathen representations in metal, stone, bone, or wood, they were a sort of sacred picture-book kept in a temple and intended to preserve the kernel of the old theology for the people. Accepting the view of certain marks and symbols being especially those of Thor, Odin, Frey, and other divinities, it is found that not only in later times did the Northmen cling with tenacity to their ancestral reverence for the images and sacred marks of their gods, but that in early times, even in the Bronze Age, traces may be discovered of similar objects of reverence, and that the whole system of northern mythology, such as it existed at the time of its supersession by the Christian faith, was but the development of religious ideas that had subsisted in the same regions in remote prehistoric times. Some speculations with regard to these sacred signs will also be found in our author's "Danish Arts" (p. 65 *et seq.*, p. 114).

The same may be said as to his views with regard to many of the deposits of arms and implements, both of stone and bronze, having originated from religious motives ("D. A." p. 63). It is certainly the case that considerable hoards of large flint axes, crescent-shaped knives of flint, and lance- or spear-heads of the same material, have been found deposited under large stones in fields and bogs, the uniformity of the objects in the deposit raising a presumption that it was not due to the mere hiding away of the private property of one individual, but rather to the fact that some offering to the gods was intended. In the case of hoards of bronze objects, there are some which comprise lumps of rough metal, old and worn-out implements, and even moulds. Such must, with all probability, be regarded as the property of bronze founders, hidden in the ground for the sake of security, and, from some cause or other, never afterwards recovered by the owners. There are, however, other deposits which, like those of stone already mentioned, would appear to have been due to a religious motive. In some instances the objects have been purposely broken and rendered useless, in the same manner as the gold Gaulish coins found in the Seine, which appear to have been offerings to the *Dea Sequana*, have been so constantly defaced. Such offerings to the divinities of springs and rivers were not unfrequent in Roman times, and continued in vogue even in later ages. The subject of the religious rites of the early prehistoric ages is, then, one the investigation of which has been fairly started by Worsaae, and offers a field in which future research may profitably be prosecuted.

The meaning and derivation of the devices on Scandinavian bracteates, which to a certain extent correspond

with the *bullæ* of the Romans, is also discussed in the book before us, which, though extending to little more than 200 pages, contains the result of much thought on the part of the author; and is suggestive of much more for the attentive reader.

It remains to say a few words with regard to the translator, who on the whole has done his work in a satisfactory manner, though probably a more intimate acquaintance with the Danish language and with Scandinavian archæology would have been advantageous. Such terms as grave-heights for barrows, or grave-mound^s, and the mention of a Society of Ancient Northern Texts, and the account of a discovery of relics of a primitive Stone Age in ancient chalk deposits under the earth's surface might have been avoided. But the most provoking part of the book is the author's or printer's misplaced economy in the matter of commas. Such a sentence as the following may serve as an example (p. 146): "Many other objects have been discovered in bogs and fields as well as in skeleton-graves from the close of the early Iron Age and from the middle Iron Age in Denmark, as for instance an angel of gold in deacon's robes an armlet with Christian symbols a ball of crystal a jewel carved with Christian Gnostic inscriptions in Greek ("Ablanathanalba," *i.e.* Thou art our Father) brooches mountings with barbarized semi-Christian ornaments, known also in other countries, and many others." But with all these slight defects the work of Worsaae still retains its full value, and English archæologists should gladly welcome its appearance in what Prof. Stephens, of Copenhagen, would call their "mother-tung."

JOHN EVANS.

PROFESSOR STOKES ON LIGHT.

Burnett Lectures. Third Course: On the Beneficial Effects of Light. By G. G. Stokes. (London: Macmillan and Co, 1887.)

THIS volume completes the course of the First Burnett Lecturer on the New Foundation. We have already (vol. xxix. p. 545, and vol. xxxii. p. 361) noticed the first two volumes; and we are now in a position to judge of the work as a whole. But we must first speak of the contents of the present volume.

The author commences by extending the term "Light" to radiation in general, and proceeds to a consideration of the effects which (unlike vision) are not merely beneficial to living things, whether plants or animals, but absolutely essential to their existence. Here, so far at least as matters suitable for an elementary work are concerned, there is not much room for novelty:—for the subject has of late been pretty well threshed out by various writers. Still, the mode of treatment adopted is of interest, especially that of marshalling our reasons for regarding all forms of radiation as due to one and the same agent.

"When we stand by some mighty waterfall, such for example as Niagara, and are struck by the grand exhibition of power that we see before us, we do not perhaps reflect that while it is through light that we are enabled to see what is going on, it is from light also that the energy is derived that we thus see in action."